IN THE CLAIMS

The following is a current listing of all the claims. This listing follows the new format authorized by the U.S.P.T.O. as of December 2002.

Please cancel Claims 5-7, 13, 19, and 21 without prejudice or disclaimer of subject matter.

Please amend Claims 1-3, 8-12, 14-18, 20, 22, and 23, and add new Claim 24, to read as follows.

1. (Currently Amended) A charged-particle beam exposure apparatus for exposing a member to be exposed to a charged particle beam with a pattern, comprising:

storage means for storing a plurality of data for controlling a dosage of the charged particle beam in accordance with an irradiation position of the charged particle beam on the member to be exposed, wherein the data depends on a parameter representing at least one of an underlayer condition of the member to be exposed, a resist material, a forward scattering radius, and a backward scattering radius, wherein the plurality of data are generated based on each different value of the parameter;

selection means for selecting any one of the plurality of data stored in said storage means; and

exposure means for controlling the dosage of the charged particle beam ~~for each irradiation position~~ on the basis of the data selected by said selection means, thereby exposing the member to be exposed with the pattern.

2. (Currently Amended) The apparatus according to claim 1, wherein the ~~control~~ data includes correction data for correcting influence of a proximity effect on reference dose data.

3. (Currently Amended) A charged-particle beam exposure apparatus for exposing a member to be exposed to a charged particle beam with a pattern, comprising:

first storage means for storing reference dose data of the charged particle beam in accordance with an irradiation position of the charged particle beam on the member to be exposed;

second storage means for storing a plurality of control data for performing proximity effect correction ~~for respective irradiation positions~~ in accordance with the irradiation position with respect to the reference dose data, wherein the control data depends on a parameter of a proximity effect correction calculation, the plurality of control data are generated based on each different parameter;

selection means for selecting one of the plurality of control data stored in said second storage means; and

exposure means for performing proximity effect correction for the reference dose data on the basis of the control data selected by said selection means, thereby exposing the member to be exposed with the pattern.

4. (Original) The apparatus according to claim 3, wherein the reference dose data includes data for defining bitmap data determined depending on a pattern to be

exposed, or data for defining bitmap data and an irradiation time ratio.

5.-7.(Cancelled)

~~8.~~ (Currently Amended) The apparatus according to claim 3 ~~6~~, wherein the parameter includes at least one of ~~the condition is determined using as a parameter at least one of~~ an underlayer condition of the member to be exposed, a resist material, a forward scattering radius, and a backward scattering radius.

~~9.~~ (Currently Amended) A control data determination method comprising:

~~the~~ a step of generating reference dose data ~~for each irradiation position~~ in accordance with an irradiation position of a charged particle beam for exposing a member to be exposed with a reference pattern;

~~the~~ a generation step of generating a plurality of control data to the reference dose data, based on each different parameter of a proximity effect correction calculation ~~for respective irradiation positions in accordance with conditions of the member to be exposed~~;

~~the~~ a storage step of storing in a memory the plurality of generated control data ~~for the respective irradiation positions~~;

~~the~~ a selection step of selecting any one of the plurality of control data ~~for the respective irradiation positions~~ that are stored in the memory;

~~the~~ an exposure step of performing proximity effect correction for the reference dose data on the basis of the selected control data, thereby exposing the member to be exposed with a pattern;

~~the~~ a determination step of evaluating the exposed pattern to determine whether ~~the one selected control data~~ the selected control data is ~~optimal~~ proper data for controlling the reference dose data; and

~~the~~ a control data determination step of determining ~~optimal~~ proper control data for controlling the reference dose data in accordance with a determination result;.

~~wherein the selection step comprises selecting control data other than the one selected control data until optimal control data is determined based on the determination result, and the determination step comprises evaluating the exposed pattern based on the selected control data.~~

7. (Currently Amended) The method according to claim 6, wherein whether ~~the one selected control data~~ the selected control data is ~~optimal~~ proper data for controlling the reference dose data is determined by comparing the exposed pattern with the reference pattern by a visual check.

8. (Currently Amended) The method according to claim 6, wherein whether ~~the one selected control data~~ the selected control data is ~~optimal~~ proper data for controlling the reference dose data is determined by evaluation means for comparing the

exposed pattern with the reference pattern.

12. (Currently Amended) The method according to claim ~~9~~ 6, wherein the reference dose data includes data for defining bitmap data determined depending on a pattern to be exposed, or data for defining bitmap data and an irradiation time ratio.

13. (Cancelled)

14. (Currently Amended) The method according to claim ~~2~~ 6 ~~13~~, wherein the parameter includes at least one of ~~the condition is determined using as a parameter at least one of~~ an underlayer condition of the member to be exposed, a resist material, a forward scattering radius, and a backward scattering radius.

15. (Currently Amended) A charged-particle beam exposure method of exposing a member to be exposed to a charged particle beam with a pattern, comprising:

~~the~~ a step of generating a plurality of data for controlling a dosage of the charged particle beam in accordance with an irradiation position of the charged particle beam on the member to be exposed, and storing the data in a memory, wherein the data depends on a parameter representing at least one of an underlayer condition of the member to be exposed, a resist material, a forward scattering radius, and a backward scattering radius, wherein the plurality of data are generated based on each different value of the parameter;

~~the~~ a selection step of selecting any one of the plurality of data stored in the memory; and

~~the~~ an exposure step of controlling the dosage of the charged particle beam ~~for each irradiation position~~ on the basis of the data selected in the selection step, thereby exposing the member to be exposed with the pattern.

13 ~~16~~. (Currently Amended) The method according to claim 12 ~~15~~, wherein the ~~control~~ data includes correction data for correcting influence of a proximity effect on reference dose data.

14 ~~17~~. (Currently Amended) A charged-particle beam exposure method of exposing a member to be exposed to a charged particle beam with a pattern, comprising:

~~the~~ a step of generating reference dose data of the charged particle beam in accordance with an irradiation position of the charged particle beam on the member to be exposed, and storing the reference dose data in a first memory;

~~the~~ a step of generating a plurality of control data to the reference dose data, based on each different parameter of a proximity effect correction calculation, and storing the generated plurality of control data in a second memory; ~~for performing proximity effect correction for respective irradiation positions with respect to the reference dose data, and storing the control data in a second memory.~~

~~the~~ a selection step of selecting one of the plurality of control data stored in the second memory; and

~~the~~ an exposure step of performing proximity effect correction for the reference dose data on the basis of the control data selected in the selection step, thereby exposing the member to be exposed with the pattern.

15 ~~18~~. (Currently Amended) The method according to claim ~~17~~ 14, wherein the reference dose data includes data for defining bitmap data determined depending on a pattern to be exposed, or data for defining bitmap data and an irradiation time ratio.

19. (Cancelled)

16 ~~20~~. (Currently Amended) The method according to claim ~~17~~ ~~19~~ 14, wherein the parameter includes at least one of ~~the condition is determined using as a parameter at least one of~~ an underlayer condition of the member to be exposed, a resist material, a forward scattering radius, and a backward scattering radius.

21. (Cancelled)

17 ~~22~~. (Currently Amended) A device manufacturing method which uses for part of the manufacturing process a charged-particle beam exposure apparatus for performing proximity effect correction for a charged particle beam to expose a member to be exposed with a pattern, wherein the charged-particle beam exposure apparatus executes:

~~the~~ a step of generating a plurality of control data for controlling

reference dose data of the charged particle beam in accordance with an irradiation position of the charged particle beam on the member to be exposed, and storing the control data in a memory, wherein the control data depends on a parameter representing at least one of an underlayer condition of the member to be exposed, a resist material, a forward scattering radius, and a backward scattering radius, wherein the plurality of control data are generated based on each different value of the parameter;

~~the~~ a selection step of selecting any one of the plurality of control data stored in the memory; and

~~the~~ an exposure step of controlling the reference dose data of the charged particle beam ~~for each irradiation position~~ on the basis of the control data selected in the selection step, thereby exposing the member to be exposed with the pattern.

23. (Currently Amended) A device manufacturing method which uses for part of the manufacturing process a charged-particle beam exposure apparatus for performing proximity effect correction for a charged particle beam to expose a member to be exposed with a pattern, wherein the charged-particle beam exposure apparatus executes:

~~the~~ a step of generating reference dose data of the charged particle beam in accordance with an irradiation position of the charged particle beam on the member to be exposed, and storing the reference dose data in a first memory;

~~the~~ a step of generating a plurality of control data to the reference dose data, based on each different parameter of a proximity effect correction calculation, and storing the generated plurality of control data in a second memory ~~for performing~~

~~proximity effect correction for respective irradiation positions with respect to the reference dose data, and storing the control data in a second memory~~;

~~the~~ a selection step of selecting one of the plurality of control data stored in the second memory; and

~~the~~ an exposure step of performing proximity effect correction for the reference dose data on the basis of the control data selected in the selection step, thereby exposing the member to be exposed with the pattern.

~~11~~ ~~24~~. (New) The method according to claim ~~9~~ 6, wherein the selection step performs a processing for selecting control data other than the selected control data until proper control data is determined based on the determination result.--